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INVESTOR IN PEOPLE

The Patent Office  
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Newport  
South Wales  
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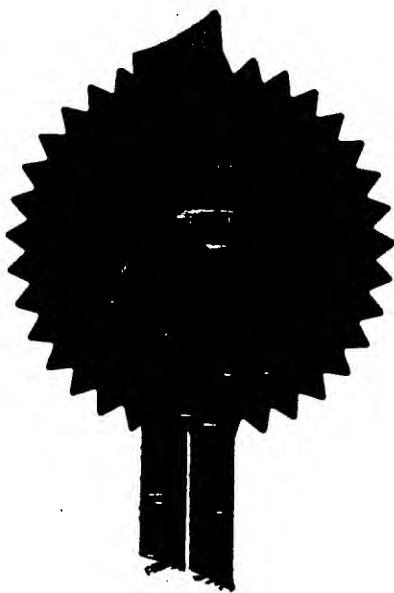
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Re-registration under the Companies Act does not constitute a new legal entity but merely subjects the company to certain additional company law rules.



*Stephen Hordley*

Signed

Dated 9 October 2001

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30 SEP 2000

# Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

The Patent Office

Cardiff Road  
Newport  
Gwent NP9 1RH

1. Your reference

GW/MK/G30476

020CT00 E572491-8 D00346

P01/7700 0.00 0024000.2

2. Patent application number

(The Patent Office will fill in this part)

0024000.2

30 SEP 2000

3. Full name, address and postcode of the or of each applicant (underline all surnames)

Pace Micro Technology Plc

Victoria Road

Saltaire

Shipley

BD18 3LF

England

7588569001

Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

4. Title of the invention

Electronic Document Filing System

5. Name of your agent (if you have one)

Bailey Walsh & Co.

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

5, York Place

Leeds

LS1 2SD

Patents ADP number (if you know it)

224001

6. If you are declaring priority from one or more earlier patent applications, give the and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number  
(if you know it)

Date of filing  
(day / month / years)

7. If this application is divided or otherwise derived from an earlier UK application, the earlier application

Number of earlier application

Date of filing  
(day / month / years)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer "Yes" if:

YES

a) any applicant named in part 3 is not an inventor, or

b) there is an inventor who is not named as an applicant, or

c) any named applicant is a corporate body

See note (d)

8 Enter the number of sheets for any of the following items you are filing with this form. Do not count copies of the same document.

Continuation sheets of this form

Description 6

Claim(s)

Abstract

Drawing(s) 1 x 1

10. If you are also filing any of the following, state how many of each item.

Priority Documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (Patents Form 7/77)

Request for preliminary examination and search (Patents Form 9/77)

Request for substantive examination (Patents Form 10/77)

Any other documents (Please specify)

11. I/We request the grant of a patent on the basis of this application

Signature

Date

29<sup>th</sup> September 2000

12. Name and daytime telephone number of person to contact in the United Kingdom

G WOOD  
0113 2433824

### Warning

After an application for a patent has been filed, the Comptroller of the Patent Office will consider whether publication or communication of the invention should be prohibited or restricted under Section 22 of the Patents Act 1977. You will be informed if it is necessary to prohibit or restrict your invention in this way. Furthermore, if you live in the United Kingdom, Section 23 of the Patents Act 1977 stops you from applying for a patent abroad without first getting written permission from the Patent Office unless an application has been filed at least 6 weeks beforehand in the United Kingdom for a patent for the same invention and either no direction prohibiting publication or communication has been given, or any such direction has been revoked.

### Notes

- If you need help filling in this form or you have any questions, please contact the Patent Office on 0645 500505.
- Write your answers in capital letters using black ink or you may type them.
- If there is not enough space for all the relevant details on any part of this form, please continue on a separate sheet of paper and write "see continuation sheet" in the relevant part(s). Any continuation sheet should be attached to this form.
- If you have answered 'Yes' Patents Form 7/77 will need to be filed.
- Once you have filled in this form you must remember to sign and date it.
- For details of the fee and ways to pay, please contact the Patent Office.

## Electronic document filing system

The present invention which is the subject of this application relates to a method and system for sorting and filing e-mails or other electronic documents.

Typically, electronic documents need to be filed in a system memory such as that of a Personal Computer, in a manner which allows the same to be identified and retrieved. Conventionally a multilayered, or hierarchical storage structure is used.

However, with a complex hierarchical filing structure it can be time consuming to traverse, scroll and attempt to find the appropriate file folder for the electronic document. Currently, two facilities assist this process in that the navigated structure can be partially expanded, and/or a history of most recently accessed folders is available.

However, with disparate sources of electronic documents coming in to the system, the history is only partially valuable, while the expanded hierarchical structure effectively just flattens the structure while requiring substantial scrolling through the structure by the user.

Thus, while both facilities may be of limited use, they can still entail a significant amount of time being required to be spent by the user when trying to file or retrieve an electronic document.

The aim of this invention is to provide an analysis of an electronic document attribute or attributes such as the header, audience, sender and/or content and therefore provide a suggested location or locations in the storage system in which to file it.

In a first aspect of the invention there is provided a method of storage and/or filing of electronic documents wherein said method includes the compilation of a list of possible filing locations within a document storage system, assessing each location and allocating a weighting value to each location with respect to other locations and upon receipt of an electronic document assessing at least one attribute of the document and, with reference to the weighted values of the selectable locations for storage, selecting to locate said electronic document in at least one of the storage locations.

Typically, for each incoming document, a correlation is made against a database representative of the filing properties of the storage locations of the filing system which is being used to store those documents.

Preferably, a certain number, say 5-10, of the best correlations can be presented, such that if a correlation is matched for an incoming document, that document can be stored in a storage location automatically or by instant selection without the need to traverse or descend into the filing hierarchy. Thus, considerable savings in time and a reduction of the frustration caused to the user is achieved by this invention.

If, upon analysis of an incoming document, a matching correlation is not identified such that none of the "shortcut" storage locations are relevant, then the document can be stored in a storage location using the conventional method of document filing.

Typically, as new documents are added into the filing system, the database of filing properties used for the correlation and analysis can be adapted to reflect the documents received in

order to ensure statistically significant correlating features are used.

Typically the attributes of the document which are assessed can be set by the system and/or user and some attributes which it is submitted can be usefully assessed are any or any combination of the following; document Sender's name, Senders company, Target audience, Header text match against folder titles, core text correlation against folder titles, Keyword extraction from filed document, and/or Header text correlations against filed documents. However this list is not intended to be exhaustive and should not be interpreted as limiting the parameters which can be selected.

Clearly some attributes are more easily assessed and detected than others. Furthermore in the analysis of certain attributes some level of statistical significance can be attached to the results so that they are meaningful. For example; a high correlation of the word "the" might occur, yet it would not be a statistically significant differentiator among the file folders.

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This is why a companion database associated with the file structure is preferred. This would hold, for example, statistically differentiating key words associated with a particular folder and only these keywords would be used to correlate against the e-mail to be filed. Thus affording a reduction in computational effort over systems that would otherwise have to perform detailed correlations against the actual folder contents as each new item arrives.

A specific example of the invention is now described with reference to the accompanying diagram, which illustrates in schematic fashion, an electronic document filing system, in this case an e-mail filing system, in accordance with the invention.

In this case two sets of files are identified, a first, file 1 relates to the attribute of companies and the second relates to the attribute "technical". Each of the files is split into a series of folders, each having an identified attribute within that file such as in the case of the companies file, "retailers", "financial" and "government". Each of these may have further folders as indicated.

## 1 -Companies

### (i)-Retailers

#### - Mr Smiths Shop

e: "blah, blah" from : msmith@myshop.com...

e: ...

#### - Confederation of retailers

e: "Meeting 27<sup>th</sup>..." to : board@confed.org

e: ...

### + (ii) Financial

### + (iii) Government

## 2-Technical

### (i)-Distribution

e: Latest shipping uses ABCD technology

e: Company X designs ABCD widget

e: re: Company X designs ABCD widget

Thus with the relevant attributes identified within the database for which the analysis of incoming documents is to occur, then in this example, process for analysis of incoming documents identifies a high statistically significant correlation of the term <from : > as the address of any incoming e-mails. Thus with the file and folders identified using the string "Companies\Retailers\Mr—Smiths—Shop"—folder an e-mail identified as <from xxx@smithshop.co.uk> would be identified and routed quickly to the appropriate folder.

Similarly, replies to and messages sent to <to :>  
board@confed.org would correlate for the  
"Companies\Retailers\Confederation of retailers" folder.

Furthermore, if a significant number of e-mails with such a source address were already filed within that folder, that address would be noted as a significant attribute for that folder and stored within the database for subsequent use by the correlator.

The keywords, "Company X" and "ABCD" could be extracted from the headers of the e-mail for the folder "Technical\Distribution" and stored within the correlation database.

Typically as the filing system grows in complexity and the diversity of the content filed increases, the adaptive value of the system will become more apparent over simple explicit filter based sorting.

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In one enhancement of the system, a degree of user "bias" can be specified for a folder if desired. For example, even though a high degree of correlation may be attributable to say an e-mail address, a specific keyword may be more important so that for example the user receives a relatively large number of e-mails from company X on technology Y, but rather than file the e-mails in a folder relating to the Company X they may wish to file the same in the folder relating to the technology Y.

The accompanying Figure provides one arrangement of the invention in schematic fashion and refers to the example described-previously.

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Thus, in accordance with the system in this example in the e-mail inbox 2 there are stored three e-mails as indicated. This information is passed into a feature or attribute correlator 4. The settings for this correlator are set by the system and/or user and are indicated by reference numeral 6. When the correlation between the set attributes and the attributes of the e-mails from the inbox is completed, the information is referred to a weighting and sorting processor 8 which includes data relating to the particular weighting of each attribute with respect to the other attributes. At the same time the user can receive an indication 10 of those files and folders which are provided as "shortcut" locations.

When the new e-mails have passed through the correlation and weighting process they can then be filed and stored 12, if appropriate, in one of the shortcut storage locations or alternatively in the hierarchical storage system.

As new e-mails are filed, that folder's attributes can be recalculated and the database updated.

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It is also preferred that at time intervals the whole system is reviewed 14 to maintain statistical correlation of the attributes set and the weighting of the same in response to the documents which have been received and stored.

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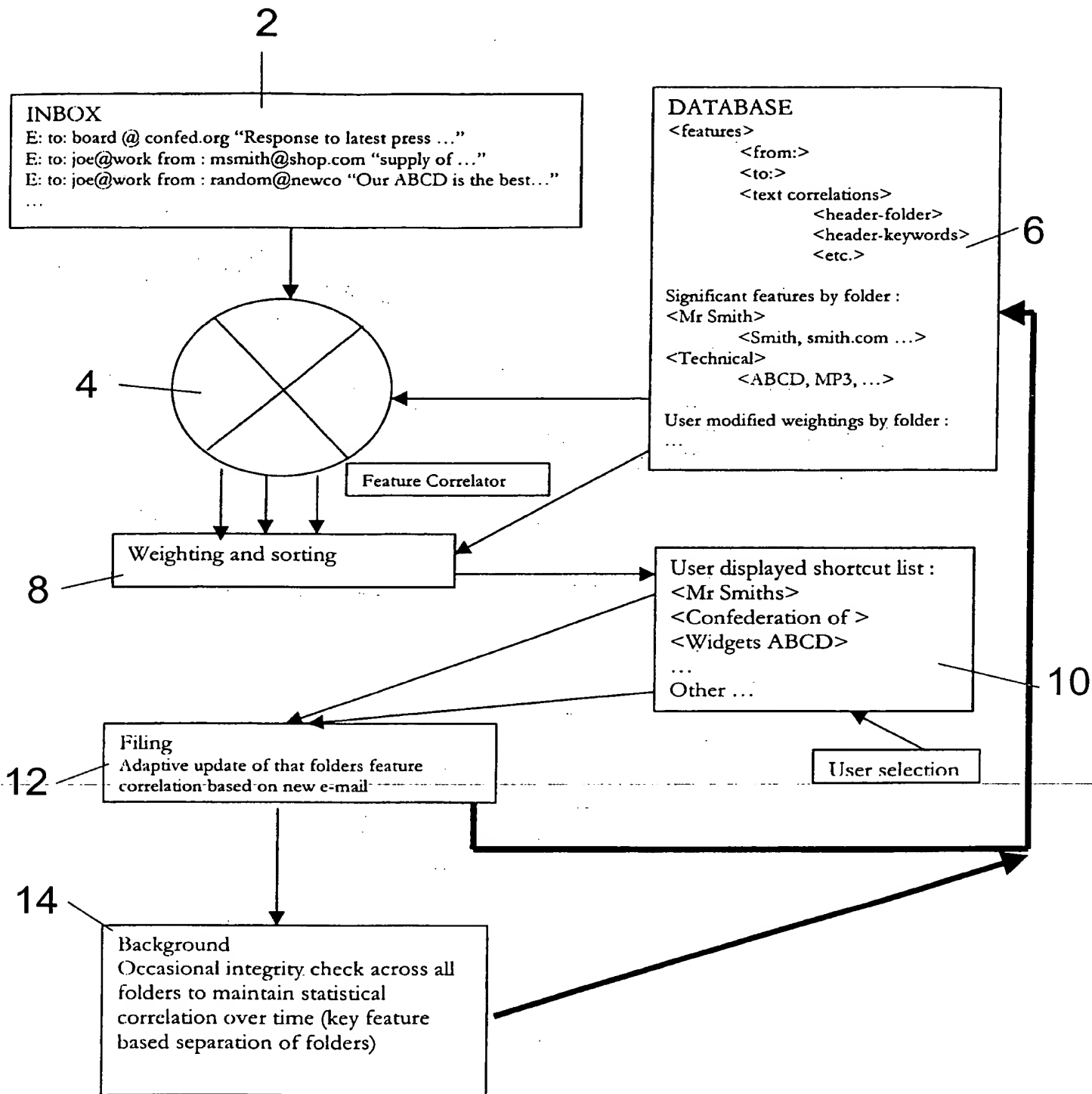


Figure 1